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ABSTRACT

This booklet, one in a series entitled "What Research Says to the Teacher," deals with guided study and homework. The first section discusses the general topic of supervised and guided study; study methods and the psychology of learning are examined as are related factors. Section two takes up the topic of study at home: objectives of homework, present practices, problems associated with homework, effect of homework on scholastic success, effect of distraction, conditions conducive to home study, and homework policy modification. (JB)

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WHAT RESEARCH SAYS TO THE TEACHER

8

Guided Study and Homework

Ruth Strang

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
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is published to provide classroom teachers and prospective teachers with concise, valid, and up-to-date summaries of educational research findings and their implications for teaching.

Each pamphlet in the series is designed to serve two prime functions: to suggest principles and practical procedures that may be applied directly by the classroom teacher and to provide a springboard for further study and use of research findings.

To serve the first purpose, authors of booklets in the series select from each field those research findings that promise to be of most help to the classroom teacher. However, research has not yet provided scientifically valid findings on many aspects of teaching. In such cases, the best that can be offered is expert opinion.

It is impossible, of course, to provide a complete summary of research in any field in 32 pages. To help teachers further explore research findings, selected references are listed at the end of each booklet in the series.

The series was initiated in 1953 by the Department of Classroom Teachers (now Association of Classroom Teachers) and the American Educational Research Association under the leadership of Frank W. Hubbard, in his capacities as director of the Research Division, secretary-treasurer of the AERA, and assistant executive secretary of the NEA. Beginning in 1966, the Department of Classroom Teachers assumed full responsibility for publication of the series, with the assistance of the NEA Publications Division. One measure of the success of the series is the use of approximately two million copies of the booklets by educators in the United States and throughout the world.

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Guided Study and Homework

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ACKNOWLEDGMENTS

Research, dealing specifically with homework and directed study, is both limited and inadequate. For our purposes it has been necessary to draw upon research on the psychology of learning, especially regarding motivation, learning, and reading. Also, some use has been made of surveys, descriptions of school practices, and expert opinion. The recommendations made are those which the author, Ruth Strang, formerly of Teachers College, Columbia University, and presently at the University of Arizona, believes are acceptable at this time. Her original manuscript was reviewed by Ernest Horn, State University of Iowa; Paul T. Rankin, Detroit Public Schools; W. W. Theisen, Milwaukee Public Schools; and Amelia Melnik, High School and College Reading Center, Teachers College, Columbia University. Changes were made by the author on the basis of suggestions of the reviewers and of the staff of the NEA Research Division.

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GUIDED STUDY AND HOMEWORK

The demands and opportunities of the times require efficient reading and study habits. In 1967 there was a serious manpower shortage; at the same time, 3 million were unemployed. One reason these two situations could exist side by side is that there is a shortage of persons trained in the new-born knowledge and skills needed in modern industry. Without training, young people cannot get jobs; without reading ability, they cannot get training.

School years are the time to acquire basic education. The usual five-hour day does not provide time enough. Education must go on outside the school. One method of continuing education beyond the school day has been to require homework. Homework and guided study are closely related; guided study in school should lead to effective study at home.

SUPERVISED AND GUIDED STUDY

During the last decade, surveys have shown that the traditional study hall and supervised study in the classroom were the dominant practice, although many schools have been experimenting with honors study halls and other types (22).* Research dealing specifically with directed study and homework is both limited and inadequate.

Effective Study Methods

What is effective study? What methods are confirmed by research on learning? What methods do students usually use? Where do pupils of different ages and abilities study best—in the regular class, in periods set aside for study, in a study hall, in the library, or at home? If at school, how should their study be supervised, by whom, for what purpose, by what methods? If homework is given, we should ask for what purpose, at what ages, under what conditions? And finally, we should ask the possibly

* Numbers in parentheses appearing in the text refer to the Selected References beginning on p. 30.

embarrassing question: What results are achieved through homework and supervised study?

Books, pamphlets, and films on how to study emphasize the advisability of a suitable place for study, regular study times, independent study, freedom from distractions, the taking of notes, preliminary review and skimming, outlining, and illustrating general rules and principles with examples. Considerable research on the relative value of these skills was done from 1920 to 1940, but with inconclusive results. Although outlining seemed to be better than underlining, rereading, and certain other methods tested, there was no convincing evidence that underlining main ideas in the text or making notes in outline form was superior to spending the same amount of time in thoughtful reading of the selection and reflective recall.

The complexity of this problem makes conclusive research difficult. While one method may show no immediate advantage, the results of its use may be appreciable after a period of time. The mental ability of the students, their motivation, their previous habits of study, the places at which questions are introduced, the kinds of test questions, and many other factors enter in. Consequently, individual differences in the effectiveness of different methods might be expected, but usually only averages, which often neutralize differences, are reported.

Psychology of Learning

According to modern theories of learning, the pupil should (a) want something, (b) perceive something, (c) do something, and (d) get satisfaction from the learning experience. All of these elements should be present in effective study methods. In other words, learning must become integrated with the individual's purpose. He must pay attention and be actively involved. The experience must be accompanied or followed by satisfaction. The modern psychology of learning emphasizes motivation, problem solving, the role of anxiety, interpersonal relations, meaningfulness, reinforcement of any move in the right direction, goals and expectations, and use of whatever is learned (see Number 6 in this series, *The Learning Process*). A list of study methods based on research would include the following:

1. Select, if possible, materials and problems that meet a need or arouse a want, interest, or drive.
2. Place any learning task in its larger setting and in the light of the purposes, values, interests, and reasons for doing it.
3. Set appropriate, immediate, and concrete as well as long-term goals.
4. Start with the simple and concrete, and progress gradually to the more complex skills and abstract concepts.
5. Relate previous knowledge and associations to new learning as part of a total pattern or *Gestalt*. See the common elements; find the underlying principles; and relate the new experience to your own life.
6. Take an active attitude toward the learning; expect success.
7. Relate details in a meaningful sequence or pattern; see facts in their relationships; sense the structure of the whole.
8. Practice a skill in the varied situations in which it is needed to make it relatively permanent and precise.
9. Overlearn important facts and skills. One of the greatest wastes of study time results from stopping before the facts are thoroughly fixed in mind.
10. Put facts and other kinds of learning to use in new situations; this not only aids memory but also extends and expands concepts and generalizations.
11. Obtain evidence of progress and the attainment of goals.

Role of the Teacher

In helping students to study more effectively, the classroom teacher's role is obviously far different from the too prevalent present practice of making an unexplained and unmotivated page assignment to a single text. Such an assignment makes no provision for the wide range of reading ability in every grade and gives pupils no practice in setting their own goals or in learning to read to solve real problems.

Ideally, teacher guidance in study involves (a) understanding of individual students—their stage of development, their idea of themselves, their study processes, what is actually going on in their minds, their readiness for a certain kind of learning; (b) providing appropriate, concrete, challenging materials and suggesting timely topics and realistic practical problems; (c) promot-

ing interpersonal relations that furnish incentives for or social reinforcement of learning; (d) encouraging student initiative in setting their own meaningful goals, finding worthwhile problems, discovering their own best ways of learning; and (e) reinforcing and making students aware of those of their study methods which are effective. The classroom teacher should not try to impose any particular method of study on all pupils or discourage any pupil's first fumbling steps in learning a new concept.

Application of Effective Study Methods

Certain general methods of effective learning may be applied to all subjects. For example, in learning to write, the classroom teacher and the class should give attention to the—

Need for writing, such as wanting to do what other people are doing or wanting to label belongings or make a valentine;

Goal or standards—what the finished product should be;

Process—how to sit when writing, what movements of hand and arm to make;

End result—what use will be made of the writing;

Practice—going through the steps leading to improvement, with acceptance of early immature stages, unique approaches, and approval of progress.

In reading, effective learning takes place when instruction and practice are appropriate to the pupil's present development; the books and other reading material are interesting and worthwhile to him; he feels a need to read; he engages in a progression of reading experiences appropriate to him; and he is neither allowed merely to mark time nor pushed faster than he can go. For upper grades, two reading methods need to be especially emphasized: (a) adjusting one's rate and method of reading to the kind of material and the purpose for which it is read, and (b) applying the Survey Q 3R formula to study-type reading. Read the title, recall previous knowledge and experience related to the topic, consider its personal importance, skim through the material reading headings, key sentences, diagrams, etc. Then:

Q —Raise questions that can be answered by the selection.
R_1—Read to get the answers.
R_2—Review to be sure you have the answers in mind.
R_3—Recite in the form in which you will use the ideas gained.

Students' Reports of Their Study Methods

Students are motivated by fear and hope, by memories of the past, by positive and negative forces of the present, and by thoughts of the future. The ideal learning situation involves discovery, novelty, multiple sensory impressions, expectation of success, and approval by a teacher who cares.

Students' retrospective reports show that certain study methods are designated more often by good students than by poor students. An extensive survey (8) of study habits in Grades 4-12 reported the 10 most significant methods of study characteristic of the high-scholarship, intelligent, and under-age groups to be—

1. Formulating a clear conception of the task before beginning a particular study period.
2. Having on hand the materials required.
3. Writing complete sentences rather than sentence fragments.
4. Seeking to master the material as progress is made from lesson to lesson.
5. Grasping the definite meaning of a chart or table.
6. Trying to interrupt work at a natural break in the printed material, such as at the end of a chapter.
7. Taking notes after reading a section, not while reading.
8. Working out concrete examples to illustrate general rules and principles.
9. Using facts learned in one class in preparing for another.
10. Reading each topic in a lesson until it is clearly understood.

The following study habits were also reported by superior high school students:

1. Summarizing main points in one's own words instead of copying them verbatim.
2. Reading all instructions and questions first before attempting to answer any.
3. Making efficient use of library facilities. The inefficient students browsed aimlessly.
4. Writing outlines after reading an entire section for general comprehension and for selection of major and minor topics.
5. Making use of context clues to find meanings of words; skimming rapidly.
6. Adjusting reading method to purpose.
7. Making critical judgments and opinions during study.

The value of such checklist questionnaire surveys is limited by the fact that students are asked to choose from among statements of study habits, not to describe their habits in their own words. There is the possibility of discrepancies between what the students say about their study habits and how they actually study. Moreover, a particular student might achieve high scholarship because of other factors and in spite of the study methods he uses. There is some disagreement between the methods recommended and the methods students say they use; only two of the 10 habits reported by able students in Grades 4-12 were among those considered most important by writers. Most significant, perhaps, is the fact that these reports of methods of study do not seem to change much after the fifth grade.

The learning process is highly individual. Each student may be at a somewhat different stage in effective study methods; each may have worked out methods that make sense to him. These methods may be more helpful to him at the time than methods suggested by classroom teachers (23).

Knowing the stage or level which the student has attained is essential in helping him to find and take the next step forward. Since the student must construct his concepts out of his own experience, an effective kind of homework would be a series of graded experiences leading to mature understanding.

Trends in Supervised Study

Guided or supervised study has passed through many stages, reflecting various concepts of the classroom teacher's work. When teaching no longer consists chiefly of assigning tasks and hearing recitations, guiding students' study becomes a recognized responsibility of the teacher. It should become an intrinsic part of the teaching process. Learning how to learn is surely as important an outcome of education as the facts learned.

Between 1910 and 1938, various plans of supervised study were proposed. After 1938, supervised study was theoretically less often set apart from teaching, and emphasis was put upon student responsibility for planning (24).

Many classroom teachers recognize the value of supervised study but do not know how to conduct supervised study periods;

their supervision consists merely of keeping order. If they are not given sufficient help, students tend to persist too long in their initial trial-and-error ways. This condition is partly due to failure to analyze study methods and to determine those which are best for students of different mental abilities. Since results of how-to-study courses vary with different classes and different students, schools should favor a selective or differential plan of study-supervision.

Improved Study Halls

In a large school there may be a study hall for each subject with a well-equipped library and a teacher in charge who has specialized in that field.

There have also been changes in the relative responsibilities of classroom teachers and students for conducting supervised study halls. Dissatisfied with the role of policeman and with the function of merely maintaining quiet, many teachers have enlisted students' interest in governing themselves in study halls. In some situations, teachers appoint monitors who impose order on their classmates. In others, all concerned think the problem through to a group decision and sometimes evolve student-made rules to govern the study hall.

Schools have successfully developed honor study halls managed by the students, usually through the student council. The success of this plan depends on building the attitude that being a member of the honor study hall is a responsibility, an achievement, and an honor. Students who wish to become members are approved by a joint committee of students and faculty; they agree to observe the study hall rules of quiet, independent work, and cooperation with the students in charge. The honor study hall affords a quiet place for study and shifts the focus of supervised study from control by outside authority to development of inner controls through social motivation.

The study hall is most effective when the physical conditions of seating, lighting, and ventilation are good; when there is freedom from noise and distraction; when students have access to the reference books they need in the subjects which they are studying; when the enrollment is not more than 50 students; when the

teacher is prepared for and makes preparation for this assignment, which is a substitute for a class, not an extra duty; and when the students develop their own goals or purposes for the study hall and are given printed or verbal aids.

While the students are studying, the teacher may observe their study habits, discuss progress with individuals, and provide enough encouragement and suggestion to help them understand and overcome their own difficulties. If the teacher recognizes a common difficulty, he may give appropriate instruction to the whole group.

Self-directed study was found to have a favorable effect on achievement, retention, and curiosity (18). Self-correcting homework in English gives students experience in editing and frees the teacher for more individual conferences (9, pp. 70-96).

Supervised Study in the Library

Many librarians disapprove of using the library as a study homeroom or study hall, whereas principals advocate it. Among the problems mentioned by librarians are (a) imposition on the librarian of the additional, often disciplinary, duties of study hall supervisor, (b) overemphasis on the use of the library for study rather than for enjoyment, and (c) frequent overcrowding.

Supervised Study in the Classroom

Some schools have abandoned the traditional study hall in favor of supervised study in each classroom. Investigations have suggested that supervised study should be an intrinsic part of a unit of work extending over several days or weeks. It should include planning ways of studying and preparing and giving oral and written reports individually or in groups.

With slow-learning students in a class in Economic Geography II, a plan of supervised study was introduced to counteract indifference and absenteeism. The class chose certain countries to study. Their reading of three textbooks was guided by a "Work Plan Guide Sheet" and facilitated by dictionaries and maps which were provided for each child. Homework was eliminated. Each

class period was spent in cooperative study in which the students felt free to consult one another and the teacher. When each one had completed work on a topic, he shared the results of his study with the whole class. The students liked this method of learning and felt they were "getting somewhere." The classroom teacher welcomed the opportunity it gave her to work with individual students and to meet individual needs, even though she had to invest additional time and effort in her preparations.

Plans for supervised study in each subject, used flexibly and skillfully, give students specific instruction and practice in how to study. As assignments become more creative and emphasize problem solving and research, the classroom, library, and laboratory become the most effective places for study.

The total study pattern should include (a) instruction in how to study a particular assignment, (b) practice under supervision in study hall or classroom, and (c) opportunity to complete unfinished work and engage in voluntary leisure reading and other worthwhile activities.

Instruction is most effective when principles, skills, and concepts relevant to the assignment with which the student is already familiar are reviewed in advance. He can then relate the new ideas to his previous "hierarchical cognitive structure" (3). Gagné, in an unpublished speech, outlined steps for giving specific verbal instruction before the reading of a selection:

1. Identify what the student is to learn from the selection.
2. Direct his attention to important parts.
3. Recall relevant principles or concepts immediately before the reading.
4. Guide his thinking process by means of specific questions on each main step in the reading-thinking process.

Directed study at its best is guided learning.

Effects of Supervised Study

Is supervised or guided study helpful to students? Results of experiments are conflicting and inconclusive. Recent research found no significant differences in student achievement in various high school subjects between two groups—one under directed study, the other under the traditional pattern of assign-study-

recite. The investigator cautioned against making extravagant claims for directed study. We should also caution against drawing conclusions when the quality of the supervision and other conditions are not definitely described. We must also remember that the conclusions apply only to the students and to the conditions of the particular experiment, not to other students and other conditions. The important factor is the kind of supervision and guidance given (14, p. 675). Burton (6, pp. 217-55) concluded from his review that superior students do less well and average students no better; but that weaker students were aided by supervised study practices.

STUDY AT HOME

Many strands of educational philosophy and method are woven into homework practices. For many years *memorization* was emphasized. The idea that "keeping the student's nose to the grindstone" disciplines his mind has long been cited to justify difficult and disagreeable homework assignments.

The *interest* strand was strengthened by Pestalozzi, who diverted attention away from the child's failure to learn and emphasized the teacher's failure to interest the child and hold his attention. While recognizing the importance of interest, Herbart believed that interest grows out of knowledge. Accordingly, he was concerned that children learn so that they would become interested in further learning.

The *child-activity* strand recognized the importance of pupil initiative and responsibility in learning and emphasized the objective of helping pupils use their out-of-school time wisely. These various strands of educational philosophy are still intertwined in the homework assignments of today.

Objectives of Homework

To make any progress in the solution of the homework problem, we ought first to ask: What ends are to be achieved by home study? Among the objectives frequently given are the following:

1. To stimulate voluntary effort, initiative, independence, responsibility, and self-direction. Able students want home-

work that poses a problem and gives them a chance to use their own ideas or read the books they want to read. They detest unnecessary drill.

2. To encourage a carry-over of worthwhile school activities into permanent leisure interests. We must guard against homework that usurps after-school hours which students could use more constructively.
3. To enrich the school experience through related home activities.
4. To reinforce school learning by providing the necessary practice, integration, and application. "To do better on their examinations" is the way many pupils express it.
5. To acquaint parents with what the child is learning in school and to invite their help.

At the same time we should recognize that home conditions are often not conducive to study and that excessive homework may cause tension and anxiety in some children. This is especially true with children of ambitious parents; they feel the strain of competition for high marks and college entrance.

Variations in Present Practice

Surveys of present homework practice report wide variations. The range is from no homework, even for older students, to an excessive amount, even for young children. In the elementary school, although the general point of view has been that schoolwork should be done during the school day, some school systems require a small amount of homework. More homework is generally given in junior high school than in the elementary school. A certain amount of homework in junior high school years helps to bridge the gap between elementary school and senior high school where fairly heavy homework is the rule. The majority (around 85 percent) of parents, teachers, and, to a lesser extent, students are in favor of homework of some kind, even in the elementary school (25 and 26).

Time Spent in Homework

Numerous studies of daily schedules or diary records kept by students supply information on the proportion of the day students spend in home study. Daily schedule studies also show the re-

lation of school and home study to the out-of-school activities that are competing for the student's time. Any teacher would find it rewarding to ask his class to keep a simple diary record, even for one day, but preferably for a week (28, pp. 295-321).

Even within one grade there will be variations in the amount of time spent on homework. Time expenditures vary still more among schools having different policies. Daily schedules from one school have shown ninth graders spending practically no time in studying at home; whereas the students in the same grade of another school were spending, on the average, two-and-a-half hours a day in study.

Home-study time can vary greatly among individuals within the same class. It is not always the less able learners who study the most. If the schoolwork is challenging, the bright students may spend a large amount of time in home study. Girls generally study more at home than boys. Recommendations for reasonable amounts of study time have little general applicability because so many conditions influence the time expenditure that is best for a particular pupil or class.

The amount of time students spend in studying depends on a number of interrelated factors. The tone and morale of the school make a big difference. In some schools, home study is "the thing to do"; in others, to study much at home brands the pupil as a "brain" or a "square." The amount of time spent in study also varies with the standards of the school, the suitability of the curriculums, and the quality of the instruction.

Pupils' backgrounds also influence their study habits. Children and parents from certain cultural backgrounds are less likely to take schooling seriously than those from other backgrounds. Upper and middle class parents usually value school learning more highly than those from lower socioeconomic groups; they see that their children have homework to do and that they do it.

The intelligence of the students may also influence the time they spend in study. In schools in which standards of achievement are below the ability of most students, the time spent on study is less than could be expected. But in schools in which the work is challenging, the superior student may spend two or more hours in home study. The relation between intelligence and time spent in study also varies with different subject fields and different

teachers. Unless excessive, participation in extraclass activities, home duties, and remunerative work do not have a detrimental effect. In fact, the tonic effect of success in social relations often stimulates students to study more effectively.

The kind of assignment affects home-study time. For example, in one high school a history teacher gave written assignments of a rather mechanical nature that required considerably more than an hour every night. She checked this homework carefully so that the students felt compelled to do it. As a result, they neglected less definite but more creative projects.

Since the relationship between study time and scholarship involves many factors, the results of research are conflicting. One survey of high school students reported practically no relation between the hours given to study and marks; whereas in another high school there was some evidence that time spent in study paid dividends in scholarship. The high achievers in the ninth grade were spending more time in study than the low achievers. In elementary school the correlation between school marks and time spent in homework was very small. This relationship, of course, is influenced by the pupils' proficiency.

Kinds of Homework

Homework assignments may be arranged on a continuum from the extreme of mechanical, routine exercises required of all students to the other extreme of creative projects or experiments undertaken voluntarily by individuals.

How do students feel about homework? Any teacher who has a good relationship with his students can find out by asking them to write anonymously on the subject "How I Feel about Homework." Such compositions show that many pupils do not object to working at home on interesting problems. Able learners say they like to write "research" reports, to find arguments on both sides of a question, to solve problems, to memorize selections from great literature. They like to be free to read books of their own choice, to do experiments with home equipment. Their homework should include incentives to critical thinking. They object to "busy work" but enjoy creative types of homework (32).

The kind of homework assigned is fully as important as the amount of time spent on it. The values to be achieved through homework determine both the kind and the amount. The students' feelings of strain and annoyance may result more from the kind of homework they are given than from the amount of time it takes.

The kind of homework given by classroom teachers and the kind of studying done by students are also influenced by the kinds of examinations students are expected to pass. If tests stress merely the recall of facts rather than the power to use information, students tend to focus their attention on details and the exact wording of passages. If tests call for problem solving and the ability to use facts, students are more likely to read to see relationships, to draw conclusions, and to make generalizations rather than merely to memorize.

The kind of studying done also depends a great deal on the nature of the assignment. Exercises that can be done mechanically encourage copying; they may arouse resentment, especially on the part of the bright students. If the assignment requires a "research" type of reading, the students obtain practice in locating sources of information and extracting the information they need. An assignment that calls for initiative, imagination, and individual effort gives no opportunity to copy and challenges the students to work effectively. Classroom teachers should guard against giving assignments that result in low-energy output and general dissatisfaction with school.

Written work is often required, probably because it constitutes evidence that the student has done the work. As a way of appraising students' knowledge, a discussion is more stimulating to the class and less burdensome to the teacher than written homework.

Assignments are often vague. Some teachers still do not acquaint students with the specific skills and abilities a given assignment requires. Often the students do not know why they are to read a chapter: to learn specific isolated facts? to get the main ideas? to relate details to the main ideas and to get the author's pattern of thought? to draw inferences and conclusions? to answer questions in the book? to raise their own questions? to relate the content to what they have previously learned? to re-

late the content to other experiences? or to apply what they have learned to practical life situations?

Assignments should be planned so that they require a variety of study methods, thus helping to build a repertory of study skills. Students should also learn to integrate different kinds of study experiences and to develop increasingly the ability to determine the specific approach that is appropriate to a given task.

Problems Associated with Homework

Homework gives rise to a number of problems. There is the widespread problem of copying another's homework. Copying defeats the purpose of homework and may have a detrimental effect on character and citizenship. If the student who copies or permits the copying of homework feels guilty about it, the homework problem takes on a mental hygiene aspect. Homework may also affect family relations.

1. *Copying* vs. *sharing*. Cheating and sharing are two methods of cooperation in getting one's homework done. *Cheating* is involved when one student copies another's homework; he is cheating himself—depriving himself of the learning experience which the homework is expected to give. *Sharing* is involved when students work together on a homework assignment, each learning from the others as well as contributing to the accomplishment of the task. There should be more opportunity for this kind of sharing.

When homework assignments are the same for all pupils in the class and when they consist of mechanical exercises requiring no originality and little initiative, conditions are just right for copying. Many do. In a large city school system the practice of copying homework increased as students advanced through the grades. Almost three times as many ninth graders as seventh graders admitted that they copied homework. And most of them did not feel guilty about it.

The extent of copying naturally varies in different schools and communities and with the ability of the individual and the nature of the assignment. These last two factors are interrelated. The bright pupil, unlike the less able pupil, does not need to copy; he understands an assignment, but may copy routine ex-

ercises just because they are of no interest or value to him.

High school students have given various reasons for copying and for permitting others to copy their homework. They copy others' homework because they have forgotten the assignment, because they do not know how to do it themselves, or for other reasons. They permit others to copy their homework because they want to help their friends and be loyal to them or to their gang. If a friend is in a tight place, they do not want to "let him down." Sometimes they are afraid of arousing antagonism or losing friends if they do not comply with a request to lend someone a homework paper. Some may have in mind the prudent thought that they may sometime be in need of similar assistance.

2. *Homework and family relations.* The help a pupil gets from his parents or older brothers and sisters is often of doubtful educational value. Some parents mean well but confuse the child by using methods different from those used in school. Others nag their children and put too much pressure on them. At times parents are too protective; their help consists practically of doing the child's homework for him. Some interrupt a child's study by asking him to go on errands. Ideally, parents can help the child by pointing out principles involved, giving illustrations of them, making suggestions for the pupil's own study. They should encourage the child to use his initiative and to take responsibility and show him how to learn.

Instead of contributing to good family relations, homework that has no intrinsic appeal to the students is often a source of conflict in the home. It may increase normal early adolescent antagonism toward parents. On the other hand, homework that consists of practical projects to work on at home, like those in 4-H Clubs and Scout groups, may have value in bringing parents and children closer together through a common interest.

3. *Health aspects.* Differences in the effects of homework on the health of individual children may be due to differences in their general health and intelligence, the time spent in traveling to and from school, and home and neighborhood conditions. Homework is easy and pleasant for some students, but burdensome for others. On certain children homework makes excessive demands; they feel oppressed and depressed by it. Yet evidence

that homework causes excessive fatigue or is detrimental to health is difficult to obtain.

Some teachers believe that very few youngsters are so conscientious as to endanger their health by excessive study. Yet excessive tension and a sense of pressure often are associated with homework assignments that are not appropriate to the individual. Evidence of this is suggested by recent medical reports of increases in the incidence of stomach ulcers among children. Late hours spent in study and the inability to complete assignments may make a conscientious pupil depressed and anxious. Such anxiety is self-defeating. It has been found that extremely anxious students tend to spend a large proportion of their study time thinking about themselves and other things. On the other hand, some students feel more secure when they have had homework to prepare them for the class discussion.

For mental health children and young people need to engage in worthwhile out-of-school tasks suited to their individual capacities. Homework should supply such tasks and reasonable freedom in carrying them out. When homework crowds out social experience, outdoor recreation, and creative activities and when it usurps time that should be devoted to sleep, it is not meeting the basic needs of children and adolescents.

4. *Administrative faults.* Some of the detrimental effects of homework are caused by faults in the administration of the homework program. Teachers may fail to collaborate in giving assignments, underestimate the amount of time required by a particular assignment, demand excessive amounts of time, set unsuitable tasks, or pile on homework in a mistaken attempt to help students succeed in a school program too difficult for them. Homework also has been assigned as punishment for individual and group misbehavior. Schoolwide and citywide efforts have improved study skills (7).

5. *Lack of guidance.* The individual differences of students are too seldom recognized. Intelligent students enjoy doing challenging intellectual tasks which give exercise to their native ability. Others, largely because of parental ambition, have too high a level of aspiration; they are carrying programs unsuitable for them. For these students, homework may be an excessive addition to the school day; it may decrease the interest and vigor with

which they engage in school activities. The resulting fatigue, frustration, and dissatisfaction with school should be attributed partly to poor guidance.

Effect of Homework upon Scholastic Success

Although many opinions exist on the effect of homework upon scholastic success, there has been little research on the subject. Brown and Holtzman (5) found a rather low correlation between study habits scores and school marks. Hudson (19) reported that scholastic achievement in arithmetic, but not arithmetic concepts, was influenced by the amount of homework assigned. The many intangible factors involved have prevented exact and consistent measurement of changes and relationships.

1. *Conclusions of experiments.* Recognizing the limitations of even the most carefully controlled experiments, we can present only tentative conclusions. From his review of the 17 reports of experimental research prior to 1959, Goldstein (13) concluded that "regularly assigned homework favors higher academic achievement . . . more important at some grade levels than at others, in some subjects than in others, or for some pupils than for others" (p. 221). More details on two studies will illustrate the nature of these experiments.

The following conclusions apply to eighth-grade pupils in one experiment:

1. Home study appropriate to the pupils and carefully assigned was an aid in improving scholarship.
2. Pupils who were not assigned homework were sporadic in their achievement.
3. With pupils of average intelligence, home study seemed to be equally valuable for English, social studies, and mathematics.
4. The brighter pupils in the "homework group," as a whole, tended to make proportionately higher achievement scores than those in the group that was given no homework.
5. Average and below-average pupils seemed to be handicapped by not having specifically assigned homework (1).

Another experiment with older pupils yielded similar results (27). The students in this class in American history had IQ's

ranging from 88 to 149. They were divided into two groups determined according to IQ and previous marks. The day before, the homework group was given an assignment to read at home. The nonhomework group was asked to read in class the pages dealing with the topic while the other half discussed it. All joined in the final discussion and took a short quiz the following day. After two weeks the procedure with the two groups was reversed.

At the beginning, the responses of the group that did homework "were more frequent and sustained" than those of the other group. As time went on, those who did no homework eagerly joined in the discussions. Some finished their reading quickly so that they could take part in the discussion with the other group. The homework group consistently made higher scores on the short daily quizzes than the nonhomework group. The homework group showed a similar superiority on the period-long essay test. A further analysis of scores showed that the brighter students did well with or without homework, but scored higher when they did homework. The average students in the homework group likewise achieved higher scores. The students with low IQ's also did better with homework and were lost without it.

The general conclusion seems to be not to abandon homework but to evaluate and improve present practice.

2. *Reports of experience.* Some evidence of the effect of homework on scholarship has been reported by schools that have reduced or abolished homework and then observed the results. The undetermined effect of previous homework and failure to follow up results in upper grades make interpretation of these reports difficult.

In some secondary schools where homework had been abolished or limited, the sum total of achievement did not seem to have been affected. When the students did not have homework to do, they could engage in evening classes in arts and crafts, natural science, dramatics, dancing, shorthand, and other activities of interest and value to them.

Excessive homework, some teachers have observed, may cause fatigue which prevents the pupil from doing his best work in school the next day. Recognizing this possibility, one principal asked the parents' cooperation in experimenting with a reduction of homework. Instead of assignments in three subjects, pupils

were given homework in only two, and the time to be spent in home study was limited to one hour daily with weekends free. He asked the parents to observe (a) any evidence of less strain and tension, (b) the relative eagerness with which their children went to work on their homework, (c) their use of free time in worthwhile activities, and (d) any improvement in sleep and general health. In their reports later in the year, more than three-fourths of the parents reported favorable results from this reduction of the homework load. Almost 90 percent said they would not want to return to greater homework loads.

Any decision regarding homework should take into account many factors—home conditions, the amount and kind of homework given, its relation to the time for study at school, and the extent to which the curriculum stimulates students to study at home. A re-evaluation of the curriculum and teaching procedures might lead to improved supervised reading and study in school and to home study that would be a worthwhile learning experience for the student.

Effect of Distraction on Study

How much does radio and TV affect study habits? Although individuals may maintain a high level of concentration in the face of distraction, this result is achieved with an increased expenditure of effort, conscious or unconscious. Distractions which are continuous, such as a musical program, are less disturbing than those which are intermittent, such as alternate talking and music.

It may be that modern young people are evolving new adaptations to the distractions of modern life. They may be learning to shift their attention with great rapidity or to suppress one sensory appeal while concentrating on another. One experiment reported evidence that high school students studied more effectively when a radio program of music was turned on in the study hall. However, this effect might have proved to be only temporary, obtained under the stimulus of a novel situation.

In a junior high school, an alegbra class worked in a traditional quiet classroom atmosphere. Another class, similar in achievement, listened, as it worked, to a varied radio program of music, drama, and newscasts. There was little difference in the median

scores of the two classes on the final test. However, a further analysis of the scores showed that while the "disturbing influence of the radio" did not affect the scores of the able learners, it did interfere with the learning processes of the average and below average (11). The effects of the radio on comprehension and retention of study-type material seem to vary with the individual. Unlike radio, television does not lend itself to combined viewing and study, although one boy said he studied during the commercials.

Conditions Conducive to Effective Home Study

If students are to study at home, conditions should be made as favorable as possible. Of physical conditions, quiet and good lighting are probably the most important. When a separate room is not available, a study corner with an uncluttered desk and lighting that meets the requirement of the Illuminating Engineering Society should be provided. Specific instruction and preliminary practice in school on a given assignment pave the way to successful home study.

Over 75 percent of 748 sixth-, seventh-, and eighth-grade students mentioned the following factors as favorable to home study: (a) having a clear understanding of the assignment, (b) having the necessary materials on hand, and (c) quiet and freedom from interruptions. These conditions prevailed less frequently among the disadvantaged (20).

Cooperation between parents and teachers is essential to effective home study. Parents' groups often discuss homework. One group systematically discussed three topics: "The Worth of Homework," "The Homework Load," and "Homework and the Home." They then held a joint conference with the classroom teachers. The parents' role, they said, was to provide conditions conducive to study and to help the child work out a good study schedule, but not to teach or do the homework.

Study schedules based on diary records of the way students actually spend their time are helpful to many students. By planning a reasonable daily program of preparation for each class, the student sees how he may budget his time to the best advantage. The schedule serves as a flexible, realistic guide.

Effective reading methods are basic to successful study. Instruction in effective methods of reading and study is prerequisite to success in home study (17). The mature reader has been described as a person with wide interests and specific purposes that guide his reading. He has a repertory of reading skills which he applies as appropriate; he varies his rate with the content and with his purpose. He reads with an active mind, first comprehending what the author says and then relating the ideas to his previous knowledge and experiences. He makes inferences and generalizations and applies the knowledge gained through reading to the solution of real problems. Homework, at its best, requires mature reading ability.

To develop mature reading ability, the teacher plans with the student appropriate ways to study the assignment for the day and takes time to teach certain reading and study skills needed by all students, by a few, or by individuals. The skills may be taught to small groups and to individuals while the rest of the class is beginning to work on the assignment. Preliminary study uncovers questions and problems which can be discussed before the end of the class.

Modifications of Homework Policies

For more than 50 years schools have been modifying their homework requirements, usually in the direction of less homework and more practical, interesting, and creative assignments. Some have abolished homework. As a result of partially controlled experiments and informal appraisals of the effects of changes in homework practice, certain recommendations have been made.

1. *Development of study skills in the elementary school.* Before homework assignments can be increased in junior and senior high schools, study and reading skills must have been mastered during elementary school years. If the amount of daily homework is smoothly graduated from a few minutes in the first grades to two hours in senior high school, children will become accustomed to the regularity and continuity of home study.

2. *Provision of time for other activities.* If the weekends and one evening in the middle of the week are left free, the pupil has

an opportunity to develop appreciation and skill in art and music and to participate more fully in the social life of the family and the community. This trend toward homework that is optional, creative, and recreational has been deflected by the emphasis on higher academic standards for college-preparatory students and by the competition caused by college entrance requirements. An increase in the homework required has become evident in many schools.

3. *More time for guided study in school.* Homework has been eliminated in the country day school type of program in which recreation and study have been incorporated into a lengthened school day. Various forms of supervised study likewise provide time for study in school, for classroom learning as well as for testing what pupils have learned.

A longer school day which provides time for supervised individual study is especially helpful to slow learners and retarded readers who need specific help in learning how to get their studying done. It is also helpful to students who travel some distance to and from school or who live under home conditions in which it is difficult to study. For these students an after-school period for independent study, following a recreational break, enables them to do the necessary studying under favorable conditions. Any plan for incorporating all or most of the necessary independent study within the school day may have several good results: more voluntary reading, more opportunity for taking responsibility for one's use of time and for engaging in worthwhile activities scheduled during the evenings, and less worry and dissatisfaction with school.

For students who have no incentive to study or who lack a quiet, suitable place for study at home, "homework classes" have been suggested. These meet in the evening for one or two hours under the supervision of teachers. Part of the time is devoted to supervised study, the rest to games and other recreation. These classes meet the social as well as the academic needs of certain children and young people.

"Preparation periods" is another plan for reducing the amount of homework by having some or all of it done in school. In some schools the last period of the day, or even most of the afternoon, is scheduled for independent study under supervision. Students

are encouraged to use the library and to have individual conferences with their teachers.

"Study day" is another plan for developing independent study habits. In one high school under this plan, the students are on their own every Wednesday (15). There are no scheduled classes. Some teachers are on hand to give individual assistance, while others are taking field trips with student groups. The student may select from a variety of social as well as academic experiences. He first makes out his proposed schedule for the day in the homeroom period. Students who have not passed the previous quarter must have the teacher's approval of their schedule. A student who has failed a subject is required to spend two periods with the teacher of that subject. The teachers with whom a student spends some time sign his card, which is returned to the homeroom teacher at the end of the day. A general movement in the direction of more pupil-teacher planning has resulted from the "study day" program.

4. *Long-term projects.* Long-term projects give students more practice in budgeting time, relating the facts they learn, using the knowledge they gain for some practical purpose, becoming more proficient in the problem-solving method.

Although the "weekly assignment" plan may not reduce the total of homework, it does give the students more opportunity to plan their work. By completing their homework assignments on certain days, they may have one or more nights and weekends free. This plan puts more responsibility on the students for using time wisely and focuses their attention on the task to be accomplished instead of on the time to be spent on homework.

5. *Less written homework.* Written assignments are the type most frequently given. A controlled group experiment with fourth-grade children showed no advantage in the use of homework work sheets (32).

There are several reasons why the disproportionate amount of written homework should be reduced. It becomes a heavy burden to the students, especially the gifted ones, unless, of course, it is creative writing. It crowds out the kind of home reading and study most often needed in later life. The burden of correcting written exercises often makes the teacher less enthusiastic and creative.

6. *More student initiative and freedom.* Students should participate in making their homework assignments. They need to relate and otherwise reinforce the facts they have learned, solve the problems that seem to them significant, and acquire the tools of learning for which they feel a need. In an experiment in an average class in intermediate algebra, the teacher opened the semester with a mimeographed outline of the plan, including assignments to be passed in at intervals and in blocks chosen by the students. At the beginning of each class period students could ask for clarification or help on any assignment. No two homework papers handed in were alike; the teacher commented on each paper. Evidences of success reported by the teacher were (a) the students' growth in knowledge and in self-reliance and independence, (b) the fact that most assignments were handed in before the final date set, and (c) the higher grades obtained on the same tests as compared with classes using conventional homework routines.

7. *More meaningful and useful study.* Ideally, a student studies at home so that he may *produce, not reproduce.* If he has a definite end in view—an immediate use for the facts he is learning—he reads more efficiently and remembers more easily. The whole process is psychologically effective and personally satisfying.

Assignments should grow out of activities in which the students are interested and for which they are ready. A particular assignment should be continuous with previous classwork and should be geared to future development of the subject. To give such assignments requires knowledge of the students and of the subject. It also takes thought, imagination, and pupil-teacher planning. Such assignments cannot be made hurriedly at the end of the period, as is so often the practice.

The assignment should help a student learn how to learn. This objective will not be attained if the student has not had basic instruction in how to study a given subject. The student should understand how to approach the problem so that he will not feel "all at sea" or frustrated.

8. *Individualized homework.* When homework is individualized, it becomes a way of meeting special needs (12). It should vary with the capacities and interests of individual students.

This objective may be achieved, as already stated, by more student initiative and freedom and by differentiation of assignments. Although individualization of instruction has been advocated for a long time, it is probably true that most assignments in American high schools are not differentiated to any degree. One reason for this lag is that differentiated assignments take more time and require more understanding of the abilities, interests, and needs of individual students than many teachers possess.

CONCLUSIONS AND RECOMMENDATIONS

Should homework be abolished? Opinions differ (2). There is no conclusive evidence to justify the persisting faith of many persons in the efficacy of *routine* homework. But a systematic homework procedure (21) that grows out of stimulating school experiences and student initiative should be a valuable learning experience and a worthwhile use of after-school time (24).

The results of opinion polls, descriptions of programs and procedures, and experimental studies relative to guided study and homework may be considered as exploratory of this field rather than conclusive.

The surveys have reported present practice rather than best practice and promising procedures. They do show, however, discrepancies between recommended procedures and those being currently employed. For example, meaningful homework, individually assigned, is recommended; but the majority of teachers apparently still give the same assignment to the entire class. Creative assignments seem to be given infrequently. Although it is recommended that teachers take time to clarify the assignment and get students started on their homework during the class period, few teachers actually do this. More concerted action on the problem in a given school or school system is recommended but seldom carried out. Generally neglected is continuous, sound instruction in study methods, beginning in the first grade.

Many of the researches can be criticized from the standpoint of design, unclear description of procedures, inadequate measuring instruments, and failure to explain different results for subgroups within the sampling. Too often researchers publish conclusions and generalizations not warranted by the findings.

These conclusions have been further distorted by persons who read the research reports superficially.

Contrary to general opinion, the findings of the best research indicate that systematically assigned homework contributes to academic achievement to a variable degree for able learners: to some extent for the average; and to a more marked degree for the slow learner.

However, opinions of teachers, parents, and students, which presumably are based on experience, are not without value. Their consensus and research findings lead to the following conclusions:

1. Some homework is necessary. It should grow out of and enrich classwork.
2. Students should see the purpose of the homework.
3. Teachers should spend class time helping students to get started on their homework.
4. One teacher's assignments should not take a disproportionate amount of time and effort.
5. Individual differences should be recognized and the amount and kind of homework matched with the developmental status of the child.
6. Students' initiative and responsibility should be encouraged; many assignments should be on a voluntary basis.

The result of any administrative or teaching procedure depends upon the psychological soundness of the method, the appropriateness to the individual, and the skill and personality of the teacher. Whatever methods or administrative devices are used, the crux of the matter is the quality of study habits developed. This should be a central focus of research in this area of guided study and homework.

We need well-planned and carefully controlled experiments in which more kinds of learning in different subjects are studied, groups are chosen with respect to more of the factors that influence learning, the setting and the nature of the homework and of the supervised study are described in detail, and the results are more precisely measured and interpreted. There is also need for more systematic and accurate observation and analysis and "action research" by teachers on how individual pupils learn under different conditions of home and school study. Accurate descriptions, if evaluated, are more meaningful and useful than superficial surveys or inconclusive experiments.

In teaching any class or group we need to ask: What purpose does homework serve? What effect does a certain kind of homework have on students of different interests and abilities? How else might they spend their time? Could the desired results be achieved by guided study during the school day? What study methods do successful students of different abilities and backgrounds actually use? This information can best be obtained by the skillful use of introspection and retrospection—asking students to describe what goes on in their minds while they are studying or immediately after a period of study (29).

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